Veterans Affairs
Medical Center
Durham, North Carolina

Duke University
Medical Center

Research Update

Institute for Clinical and Epidemiological Research

Volume V, No.4 A Veterans Affairs Center of Excellence Winter 2002

Racial Variations for Carotid Endarterectomy

Do clinical indications and patient preferences account for differences in carotid endarterectomy (CE) between black and white patients? That is the question Eugene Z. Oddone, M.D., M.H.S., and his research colleagues asked in a recent study published in the December 2002 issue of the journal *Stroke*[1].

Carotid endarterectomy, the surgical removal of carotid artery blockage, is known to reduce stroke rates in certain patients. Though black patients are at higher risk of stroke, and reports indicate that stroke deaths among this group may be increasing, black patients are only one-quarter to one-half as likely as whites to receive CE. No clear explanation for this racial difference exists, though an understanding of this difference is essential before any workable intervention can be assessed. The goal of Dr. Oddone and his colleagues was to determine why this difference was occurring.

Patients were eligible for the study if ultrasound testing revealed a 50% or greater stenosis, or narrowing of the carotid artery, indicating the patients as potential candidates for CE. As a result, 708 patients from five VA medical centers, 617 whites and 91 blacks, were found to be eligible and enrolled in the study. Since the assembled patients were already determined to be eligible for CE based on the findings of ultrasound testing, the researchers wanted to examine the decision process patients face concerning their evaluation for CE.

"We asked patients direct questions about race, health risks, and their preferences for treatment as well as systematically questioned their providers," says Dr. Oddone. "We wanted to determine what influenced their decision to accept or use CE at the exact time when the real decisions were being made, not after they were made."

"We found that whites and blacks were equally as likely to receive CE," says Dr. Oddone. "Once patients had ultrasound, clinical decisions are guided by the clinical indications for the procedure and not the patient's race. What accounted for the differences between whites and blacks was whether CE was clinically appropriate for the patient. This means that any overall racial difference in use of this procedure must occur at a point prior to referral to the ultrasound."

The study also found that variation in enthusiasm for CE exists among physicians and therefore "the messages patients receive about the usefulness of CE may be different, depending on the provider." This only helps to complicate communication between patients and providers as to the appropriateness of CE as a means of reducing stroke.

Two strengths of this study are: 1) patients were in a VA medical facility where they received their care in an equal-access healthcare system, and therefore patient financial disparities did not limit use or access to medical procedures, and; 2) patients were enrolled in the study after a noninvasive evaluation of their carotid arteries had been established. The study noted, too, that its limitations are that since the vast majority of patients were older men, the same results may not apply to women, and that by enrolling patients before a potential CE may have somehow influenced their decision about the procedure.

"Understanding racial variation in access and use of medical procedures requires a systematic approach," says Dr. Oddone. "To fix disparities, clinicians and administrators must understand where they arise or where in the process of care are they most likely to occur."

Continued on Next Page

"The next generation of studies in determining the racial disparities in carotid endarterectomy," concludes Dr. Oddone, "should explore how more general symptoms of cerebrovascular disease are communicated and understood by primary care providers, and how patients are then referred for carotid ultrasound."

1. Oddone EZ, Horner RD, Johnston DCC, Stechuchak K, McIntyre L, Ward A, Alley LG, Whittle J, Kroupa L, Taylor J. "Carotid Endarterectomy and Race: Do Clinical Indication and Preferences Account for Differences?" *Stroke* 2002, December; 33(12):2936-43.

Medical Service Utilization by Veterans with PTSD

Veterans with posttraumatic stress disorder (PTSD) are substantial users of VA physical health services according to a study conducted by Patrick Calhoun, Ph.D., and his colleagues, of the Center for Health Services Research at the Durham VAMC and psychology services, and published in the December 2002 issue of *American Journal of Psychiatry*.[2]

PTSD is a common mental disorder and is prevalent among persons exposed to war. Approximately 22% of American combat veterans have clinically significant chronic PTSD. These veterans also have higher rates of health complaints such as cardiovascular disease, respiratory, musculoskeletal, and neurological problems than veterans without PTSD.

The study's objective was to accurately define the burden of PTSD on the VA health care system. "We wanted to determine both the physical and mental health services used by veterans with PTSD by examining objective utilization measures," says Dr. Calhoun. "We also wanted to determine whether the greater the PTSD severity, the greater rate of medical services use."

The study consisted of 996 male combat veterans who sought help and were evaluated for PTSD symptoms between 1992 and 1998 at a VA PTSD clinic in the southeastern United States. Of these, 883 met the full criteria for PTSD and 113 did not.

"What we found," says Dr. Calhoun, "is that combat veterans with PTSD were significantly greater users of outpatient services than those veterans who don't suffer from PTSD. This was especially true for younger, combat exposed veterans who sought help." The study found little difference among older patients with or without PTSD with the amount of physical and mental outpatient service use. The study states this may suggest "that PTSD is associated with the early development of significant medical conditions" for which more research is needed.

"The greater the PTSD symptoms, the greater the odds of [VA] psychiatric hospitalization," says Dr. Calhoun. "Veterans with PTSD also used more health services in non-mental health clinics than veterans who are not diagnosed with PTSD."

The study suggests the potential importance of screening for PTSD in medical clinics and concludes, in part, that since there are safe and effective treatments for PTSD, as well as evidence that psychotherapy reduces medical costs, "further research is needed to evaluate the benefits for screening for PTSD in medical settings."

"The findings underscore the importance of increased collaboration between primary care and mental health clinicians," says Dr. Calhoun, "as patients with PTSD are likely to receive more care in non-mental health clinics."

2. Calhoun PS, Bosworth HB, Grambow SC, Dudley TK, Beckham JC. "Medical Service Utilization by Veterans Seeking Help for Posttraumatic Stress Disorder" *American Journal of Psychiatry* 2002 (December); 159(12):2081-2086.

Women and Heart Disease

Are women with the risk factors worrying enough about heart disease? That is a question that Mimi Sen Biswas, M.D., and her Durham VA Health Services Research colleagues asked themselves in a study published in a recent issue of *Women's Health Issues*.[3]

Coronary artery disease (CAD) is a leading cause of illness and mortality in the United States, with half of all American women's deaths attributable to CAD. Despite this, less than 20% of women are aware that CAD is the major cause of death among women. Among American women, approximately 70% have at least one major CAD risk factor such as cigarette smoking, sedentary lifestyle, hyperlipidemia, obesity, hypertension, and diabetes mellitus. A large percentage of women have multiple risk factors and many of these factors can be modified or eliminated.

With a high rate of women having at least one CAD risk factor, it would be expected that a large percentage of women would be concerned about heart disease. Mimi Biswas, M.D., the lead researcher, and at the time of this study, an M.D. Fellow with the Center for Health Service Research at the Durham VA Medical Center, with her VA colleagues Patrick Calhoun, Ph.D., Hayden Bosworth, Ph.D., and Lori Bastian, M.D., examined "the prevalence of worry and perceived risk about CAD, and the relationship between risk factors and worry about CAD." Drawing on a cohort of 328 women veterans from the Durham Veterans Affairs Medical Center known to have risk factors for heart disease, Dr. Biswas and her colleagues tested the hypothesis "that women with multiple risk factors will report more worry about CAD than women with single or no risk factors."

The study found that "women veterans using a VAMC for their primary health care are less healthy [than women in the general population], with an increased prevalence of smoking and obesity, and possibly other risk factors such as stress, poor social support, and poor mental health, putting them in a higher risk category [for CAD] than the general

population." The study reported that nation-wide, 67% of women have at least one CAD risk factor, whereas 91% of the women veterans in this study had at least one CAD risk factor.

Family history of premature CAD is a strong predictor for developing CAD. The authors noted "Although inherited conditions are not modifiable, many environmental influences common to a family, including behaviors, physical activity, tobacco exposure, education, and diets, are modifiable." For instance, Dr. Biswas and her colleagues found that, despite the fact that smoking has been attributed to 50% of heart attacks in middle-aged women, there was no difference of worry about CAD between smokers and none smokers.

Despite the high percentage of women who have one or more CAD risk factors, 84% of the women who participated in the study "thought the average woman had a low lifetime risk of CAD, and 76% thought they [the study participants] were less likely to get CAD than the average woman."

Dr. Biswas is aware that the study design has limitations. Of the veteran women involved, 84% completed some college, which may not represent women in the general population. Also, the study noted "Self-reported data may underestimate the true prevalence of CAD risk factors." The authors report that the true prevalence rates would show a larger percentage of women with multiple CAD risk factors without concern for CAD.

"Essentially, we wanted to assess women's awareness and concern regarding their risk for heart disease," says Dr. Biswas. "We think that women need to be aware that heart disease isn't just a man's disease. Awareness promotes steps toward prevention. Lack of awareness can lead to delays in seeking care that have serious and harmful implications in terms of treatment options and survival."

The study's conclusion emphasized the need for more effective screening, education, and prevention programs, because many veteran women are not worried about heart disease. The authors emphasized that more research is needed to understand why women may not worry about their health and that understanding patient awareness of risk factors is vital knowledge in targeting counseling and education efforts.

"Older women and women with multiple risk factors," says Dr. Biswas, "should be targets for intensive education for prevention and risk factor modification."

3. Biswas MS, Calhoun PS, Bosworth HB, Bastian LA. "Are Women Worrying About Heart Disease?" *Women's Health Issues* 2002 (July/August); 12(4): 204-211.

Provider Mammography Recommendation

Regular mammograms are associated with reduced risk of breast cancer mortality, and a healthcare provider recommendation is one of the strongest predictors of a woman getting a mammogram. Despite this, a large number of women in the United States are not being screened according to recommended guidelines and some have never been screened. Kelli Dominick, Ph.D., and her colleagues, in a study published in the January 2003 issue of *Journal of Women's Health*,[4] set out to determine what healthcare provider characteristics may influence recommendations to women in their forties and their fifties for having a mammogram.

"We wanted to examine the relationship between provider characteristics to mammography recommendations among women in their forties and fifties as two separate groups," says Dr. Dominick. "Historically, mammography recommendations have been more stable for women in their fifties than those in their forties. Mammography guidelines for women in their forties have been and remain controversial. This study allowed us to examine the role of provider characteristics in two different situations – one in which guidelines were agreed upon and one in which guidelines were controversial."

Research indicates that mammography recommendations by a healthcare provider can vary based on perceived and actual patient characteristics such as age, income, education level, over-all health status, whether or not the patient has health insurance, and the provider's beliefs about a patient's willingness to be screened. There also is evidence that a provider's gender and medical specialty can also influence patient mammography use.

"We found that women in their forties who had female providers were more likely to report having received a mammography recommendation than those with male providers," says Dr. Dominick. "However, for women in their fifties, provider gender was not related to self-reported mammography recommendation. The recommendation difference in this age group was that women whose regular healthcare providers were primary care physicians were more likely to report a mammography recommendation than those whose providers were obstetrican/gynocologists." Dr. Dominick says these are significant findings.

"This study showed that provider gender played a role in patients' report of mammography recommendations only when guidelines were controversial," says Dr. Dominick. "When faced with controversial guidelines, female providers were more aggressive in their screening recommendations. This may be related to gender differences in practice styles and/or prevention orientation, but additional research is needed to determine reasons for these gender differences."

Participants were drawn from a larger intervention study. Subjects included women who had health insurance provided by Blue Cross/Blue Shield of North Carolina and all of the study participants were on an insurance plan that covered mammography screening. It is therefore reasonable to expect that mammography recommendations would be frequent in this group of women.

About three-fourths of the women in the study

Continued on Back Page

HSR&D
VA Medical Center (152)
508 Fulton Street
Durham, NC 27705

Research Update
Department of Veterans Affairs

Continued from Page 3

reported having a mammography recommendation from a healthcare provider. Although fairly high, Dr. Dominick says there is room for improvement. In addition, mammography recommendations may be even less frequent among women who do not have such health insurance coverage.

"Female patients need to be educated about mammography and screening guidelines," concludes Dr. Dominick. "Guidelines remain controversial form women in their forties, making education about mammography particularly important for this age group."

4. Dominick KL, Skinner CS, Bastian LA, Bosworth HB, Strigo TS, Rimer BK. "Provider Characteristics and Mammography Recommendation among Women in their 40s and 50s" *Journal of Women's Health* 2003 (January); 12(1):61-71.

❖ ❖ ❖

Faculty Publications

Johnston DCC, ODDONE EZ, Horner RD, STECHUCHAK K. "Beliefs Regarding the Effectiveness of Stroke Prevention Practices: Differences Among Provider Specialties" *Journal of Clinical Outcomes Management* 2002 (December); 9(12):667-675.

Samsa G, ODDONE EZ, Horner R, Daley J, Henderson W, Matchar DB. "To What Extent Should Quality of Care Decisions be based on Health Outcomes Data? Application of Carotid Endarterectomy" *Stroke* 2002 (December); 33(12): 2944-49.

BUTTERFIELD MI, Becker M, Marx CE. "Post-traumatic Stress Disorder in Women: Current Concepts and Treatment" *Current Psychiatry Reports* 2002; 4:474-86.

YANCY Jr, WS, Westman E, French PA, Califf RM. "Diets and Clinical Coronary Events: The Truth Is Out There" *Circulation* 2003 (January 7/14); 107:10-16.

Research Update is published by the Health Services Research and Development Service, Department of Veterans Affairs Medical Center, Durham. For questions or comments contact Ed Cockrell, Administrative Officer, VAMC (152), 508 Fulton Street, Durham NC, 27705. Telephone: (919) 286-6936, Fax: (919) 416-5836. E-mail: COCKR001@mc.duke.edu Web Page: http://hsrd.durham.med.va.gov/ The Institute's mission is to provide quality information on issues regarding the organization, financing, and delivery of veterans' health care, and to build the epidemiological capacity of the Veterans Health Administration through the generation, synthesis, and dissemination of epidemiological information. The Institute also has a mission to educate health professionals through a spectrum of training grants in the techniques of health services and epidemiological research.